

What is claimed is :

1. A semiconductor package for enhancing heat dissipation, comprising:

a die including an active surface;

5 a leadframe, including:

a die pad having a first and a second surface, said die being mounted on said first surface ; and

a plurality of leads electrically connected to the active surface of said die through a plurality of bonding wires;

10 an encapsulant for sealing an upper mold containing said die and leadframe; and

a heat sink mounted to the second surface of said die pad and the plurality of leads with a thermally conductive and electrically insulating adhesive glue.

15 2. The semiconductor package of Claim 1, wherein said heat sink is made of copper, copper alloy, aluminum or aluminum alloy.

3. The semiconductor package of Claim 1, wherein said adhesive glue is made of epoxy, B-stage epoxy or silicone.

20 4. The semiconductor package of Claim 1, wherein said leadframe is of a cavity-up or cavity-down type.

5. The semiconductor package of Claim 4, wherein said heat sink further comprises a heat radiator on its top if said leadframe is of a cavity-down type.

25 6. The semiconductor package of Claim 1, manufactured by steps of:

(a) mounting said die to the first surface of said die pad and using the plurality of bonding wires to electrically connect the active surface of said die and the plurality of leads ;

5 (b) encapsulating an upper mold for sealing said die and said leadframe formed by the die and the plurality of leads;

(c) mounting said heat sink to the second surface of said die pad and a part of the plurality of leads with the thermally conductive and electrically insulating adhesive glue; and

(d) forming and singulating said leadframe.

10 7. The semiconductor package of Claim 6, wherein in step (d), said leadframe is of a cavity-up or cavity-down type.

8. A semiconductor package for enhancing heat dissipation, comprising:

a die including an active surface and a second surface;

15 a leadframe, including:

a central-hole die pad having a first surface and a second surface, said first surface being mounted to said die; and

a plurality of leads electrically connected to the active surface of said die through a plurality of bonding wires;

20 an encapsulant for sealing an upper mold containing said die and leadframe; and

a heat sink of a T-type structure, mounted to the second surface of said die, the second surface of said die pad and the plurality of leads with a thermally conductive and electrically insulating adhesive glue.

25 9. The semiconductor package of Claim 8, wherein said heat sink

is made of copper, copper alloy, aluminum or aluminum alloy.

10. The semiconductor package of Claim 8, wherein said adhesive glue is made of epoxy, B-stage epoxy or silicone.

11. The semiconductor package of Claim 8, wherein said leadframe is of a cavity-up or cavity-down type.

12. The semiconductor package of Claim 11, wherein the top of said heat sink further comprises a heat radiator if said leadframe is of a cavity-down type.

13. The semiconductor package of Claim 8, manufactured by steps of:

(a) mounting said die to the first surface of said die pad, and using the plurality of bonding wires to electrically connect the active surface of said die and the plurality of leads;

(b) encapsulating an upper mold for sealing said die and said leadframe formed by the die and the plurality of leads;

(c) mounting said heat sink to the second surface of said die, the second surface of said die pad and a part of the plurality of leads with a thermally conductive and electrically insulating adhesive glue; and

(d) forming and singulating said leadframe.

14. The semiconductor package of Claim 13, wherein in step (d), said leadframe is of a cavity-up or cavity-down type.

15. A semiconductor package for enhancing heat dissipation, comprising:

a die including an active surface;

a leadframe including a plurality of leads for mounting said die, and

the plurality of leads electrically connected to the active surface of said die through a plurality of bonding wires;

an encapsulant for sealing an upper mold containing said die and leadframe; and

5 a heat sink mounted to the plurality of leads with a thermally conductive and electrically insulating adhesive glue.

16. The semiconductor package of Claim 15, wherein said heat sink is made of copper, copper alloy, aluminum or aluminum alloy.

10 17. The semiconductor package of Claim 15, wherein said adhesive glue is made of epoxy, B-stage epoxy or silicone.

18. The semiconductor package of Claim 15, wherein said leadframe is of a cavity-up or cavity-down type.

15 19. The semiconductor package of Claim 18, wherein the top of said heat sink further comprises a heat radiator if said leadframe is of a cavity-down type.

20. The semiconductor package of Claim 15, manufactured by steps of:

20 (a) mounting said die to the plurality of leads, and using the plurality of bonding wires to electrically connect the active surface of said die and the plurality of leads;

(b) encapsulating the upper mold for sealing said die and said leadframe formed by the die and the plurality of leads;

(c) mounting said heat sink to a part of the plurality of leads with thermally conductive and electrically insulating adhesive glue; and

25 (d) forming and singulating said leadframe.